

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **09194999 A**

(43) Date of publication of application: **29.07.97**

(51) Int. Cl

**C22C 38/00
C22C 38/12
C22C 38/60**

(21) Application number: **08007555**

(22) Date of filing: **19.01.96**

(71) Applicant: **SUMITOMO METAL IND LTD**

(72) Inventor: **UNO MITSUO
SAKAMOTO MASAKI
KAKIMI HARUNORI
MINO TADAYUKI
KURITA MASATO**

(54) **FERRITE-PEARLITE-TYPE NON-HEAT TREATED STEEL**

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a non-heat treated steel having $\approx 500\text{ MPa}$ tensile strength, $\approx 250\text{ MPa}$ fatigue strength, ≈ 0.50 fatigue limit value, and excellent machinability and suitable for use as a stock for engine parts for compact automobile, etc., particularly crankshaft and connecting rod.

SOLUTION: This steel has a composition consisting of, by

weight, 0.20-0.45% C, 0.05-1.00% Si, 0.20-0.60% Mn, 0.01-0.08% S, 0.02-0.50% V, 0.004-0.03% N, 0-0.05% P, 0-0.30% Cu, 0-0.30% Ni, 0-1.00% Cr, 0-0.30% Mo, 0-0.05% Ti, 0-0.050% Al, 0-0.30% Pb, 0-0.0100% Ca, 0-0.100% Bi, 0-0.10% Te, and the balance Fe with inevitable impurities and satisfying $\text{fn1} = \text{C} + (\text{Si}/10) + (\text{Mn}/5) + (5\text{Cr}/22) + 1.65$ $\text{V} - (58/7) \leq 0.50$ and $[\text{C} + (\text{Mn}/5) - 5\text{N}] / \text{fn1} \leq 0.80$, where the symbol of the element in the inequalities means the content of the element by weight percent.

COPYRIGHT: (C)1997,JPO